

**Observations on the Physical Lambda Model invoking comparison with quasi Classical constructs.**

*We may invoke resonance of familiar classical constructs, within our dynamical scheme employing nuanced aspects of Newtonian Mechanics for example & others.*

N.1.L : Let's start with the concept 'Moment of Inertia' say,  $I = [m \cdot \gamma]$

& as mass  $m = \lambda^5$ , and Gamma  $[\gamma] = \lambda^2 \sim \text{Area} *$

*we get  $I = \lambda^7$  and we say this remains as it is presented for all time, 'unless acted on by a force'.*

We note in this model gamma is both a force and time or  $\gamma = F = t$  all at once or are identical or equivalent concepts used interchangeably at will, to suit the model concept. \* *thus Kepler K.2.L Area = time.*

Then,  $I = \text{mass} \cdot \text{Time} = \text{mass} \cdot \text{Force} = \text{mass} \cdot \text{Gamma}$

Invoking  $[m \cdot t]$  above for instance we could say within inertial frames  $[I]$  mass is conserved, in a sense.

Mass is conserved, & *energy is created*, which allows for action when inertia is acted on by a force,

in this case we say  $m = \frac{dI}{dt} = \{m \cdot \gamma\} / \gamma$

$$\text{mass} = \left\{ \frac{m}{\gamma} \right\} \cdot \gamma (+) m \cdot \left\{ \frac{\gamma}{\gamma} \right\} = \int e \cdot dt (+) \frac{1}{\gamma} \cdot \frac{dm}{dt} \text{ quasi energy - mass equivalence from S.R.} *$$

*The (+) indicates that l.h.s. & r.h.s of the + ve in parentheses are in*

*\* super - position i.e both states are possible and may occur under the system Omega  $\omega$*

In general, or in this specific case the gamma operator  $\left[ \frac{1}{\gamma} \right]$  can operate on  $m$  &/or  $\gamma$ .

this operator, also called the dot operator,  $-\text{dot} = 1/\gamma$ , can be interpreted as a frequency  $f$

&/or a standard 1st order time differential  $\frac{d}{dt}$  in the model.

Now that we have mass & energy, we can say that this is the result of the Action re-Action principle in Physics.

This has Mach resonance of course & is an invocation of N.3.L.

We state Action  $[S]$  is equivalent to mass  $\{m\}$ , & re-Action  $-\text{ve}[S] = -\text{ve mass} \{-m\}$ .

We use  $[S] = E \cdot t$  or 'action' = energy x time =  $[m]$

Then *energy* =  $[m]/t = [m/\gamma] = dm/dt = m - \text{dot}$

Re-action is  $-\text{ve action}$  & yields  $-\text{ve mass}$  which occurs for  $-\text{ve energy} \times \text{time} (+) \text{energy} \times -\text{ve time}$ .

So  $-\text{ve energy} = -\text{ve mass} / t$ , or,  $-\text{ve } m - \text{dot} = [-m/\gamma]$

In lambda terms *energy* =  $\lambda^3 \sim \text{Volume}$  and  $-\text{ve energy} = \lambda^{-5} = k^5 = 1/m$

Thus we can derive a model standard  $-\text{ve energy} \times \text{mass} = \text{Unity}$

$$\text{Or, } -\text{ve}[m \cdot m - \text{dot}] = 1$$

This is the Physical model *Wave equation* equivalent to Newton's U.L.G.

Actually N.U.L.G is an historical frozen snapshot of a gravity wave equation.

Having produced the gamma concept we need –ve gamma

And we state

$$-ve \gamma = \omega$$

Gamma = [Mass/Volume] =  $\frac{\lambda^5}{\lambda^3} = \lambda^2$  and can also be viewed as density *Rho*  $\rho = [m/V]$

Then system Omega = -ve  $\rho = -ve m/V$  :  $\omega = -ve \rho$

To return to this –ve mass, the *original concept* due to Dirac of course.

We state this is the system acceleration  $[a]$ .

Then  $[a] = -ve \text{ mass} = -m = 'gravity'$ .

*Locally in our Binary Mass scheme  $[M.m]$  we say -ve mass =  $[M.m]/\gamma^4$*

*And thus  $\frac{1}{\gamma^4}$  is our model -ve Operator.*

$$\text{Then } -ve[M.m] = \frac{[Mm]}{\gamma^4} = \frac{[M.m]}{\lambda^8} = \frac{[10^{30} \cdot 10^{25}]}{[10^{11}]^8} = 10^{-33} = [h]$$

*thus our familiar Planck unit, = local system 'gravity pixel', in o.o.m. terms here.*

*We suspect coincidences in Science are opportunities for insight.*

N.2.L. occurs for the product of inertial mass x gravitational mass

i.e. we call the system -ve  $m = \text{gravity mass}$ .

then  $F = ma$

*is equivalent to model Gamma*

$$\gamma = M.m.h$$

**We need to know more about the wave equation in the model.**

**This is constructed through a general identity introduced here as a *Royal road* over-arching identity/equation in Physics**

**& by that we consider that if this identity is not held in *any* given work or theory in Science then it is not a Physical theory in Nature.**

$$[\Psi - dot]^2 = \Psi \cdot \Psi - dd$$

We note here  $\left[\frac{\psi}{\gamma}\right]^2$  is resonant of Born's interpretation of squares of Amplitude gives *probabilities* of measured observables etc, & we add that +ve/-ve integer exponents of lambda parameters is a nod to Bohr's integer values of complete waves in quantum scale systems.

$$\text{from, } [\Psi - \text{dot}]^2 = \Psi \cdot \Psi - dd$$

$$\text{then, } \psi - \text{dot} = \frac{\psi}{\left[\frac{\psi}{\gamma}\right]} \cdot \frac{\psi}{[\gamma \cdot \gamma]}$$

$$\text{The model Wave equation } \Psi - \text{dot} = \gamma \cdot \psi - dd$$

$$-dd = \text{'double - dot' operator 2nd order in time, familiar} = \frac{d^2}{dt^2}$$

*Psi can be any single parameter such as lambda, mass, time or combinations [m.λ], etc etc.*

*Let's use mass & -ve mass as examples.*

$$\Psi = \{m\} \text{ then } \{m - \text{dot}\}^2 = m \cdot m - dd \text{ or, } e^2 = \{\text{mass} \times \text{lambda}\} = [\lambda^6]$$

*evocative of  $e^2 = [pc]^2$  used to derive the Klein – Gordon eqn, & also gives an associated w. eqn*

$$m - \text{dot} = \gamma \cdot \lambda$$

$$\text{or energy} = \text{gamma} \times \text{lambda} = [\lambda^3]$$

$$\text{Similarly } \psi = -ve m \text{ or, } \psi = a \text{ gives,}$$

$$[-ve m - \text{dot}]^2 = -ve m \cdot -ve m - dd, \text{ Thus, w. eqn}$$

$$-ve m - \text{dot} = \gamma \cdot -ve \lambda$$

*We can of course use  $-ve m = [a] = [h]$  then*

$$[h - \text{dot}]^2 = h \cdot h - dd \text{ gives w. eqn: } h - \text{dot} = \gamma \cdot h - dd$$

$$\text{\&/or } [a - \text{dot}]^2 = a \cdot a - dd \text{ gives w. eqn: } a - \text{dot} = \gamma \cdot a - dd$$

*We state here  $-ve \text{ lambda} = \text{Hooke } K$*

$$\text{from } \left[\frac{\lambda}{\gamma^4}\right] = \left[\frac{\lambda}{\lambda^8}\right] = \frac{1}{\lambda^7} = k^7 = \frac{1}{m \cdot \gamma} = \text{reciprocal } [I] = \text{system Hooke constant } [K]$$

$$\text{Also we glean 'system' } k = 1/\lambda \text{ \& } k = \lambda/\gamma$$

*So we have here  $-ve m - \text{dot} = a - \text{dot} = h - \text{dot}$ , lends us another identity, stated here*

$$[h \cdot h - \text{dot}] = -ve 1$$

Complementarity of a fashion is proposed for our model, and we use the concept of the familiar complex wheel

Which has a.c.w & c.w phase rotations from a datum at Unity =  $\lambda^0 = 1$ , the unit radius is generally used.

The model is scale invariant so any magnitude lambda will work from 'quantum scale' to Cosmological considerations. The only condition is  $\lambda > \{0\}$ , else we don't have a physical system.

We might have noticed from the Psi identity employed for +ve/-ve {m} we get respectively

$$a.c.w \text{ sense } e^2 = \lambda^6$$

is coincident or shares a peg on the wheel with

$$c.w. \text{ sense } \{-ve e\}^2 = k^{10}$$

*The model proposes that Nature employs +ve & -ve integer exponents with complete impartiality w.r.t. sign.*

A.C.W. phase rotations are  $[\lambda^n]$ , & C.W. rotation signifies  $[k^n]$ , or  $k^n = \lambda^{-n}$ .

$$e.g. \lambda^2 = \gamma \text{ force or time, } \quad \& \quad \lambda^{-2} = \frac{1}{\gamma} = k^2 = \text{frequency } [f]$$

We can explore the case for temperature here.

We say from Thermodynamic considerations  $K.T = m$

we can get,  $T = m.m.\gamma = [\lambda^{12}]$  or,  $T = \{m.l\}$  where  $l = [m.\gamma]$

then conventionally speaking using a tandem or double -ve sign yields a +ve

$$\text{we can say } -ve. -ve T = -ve m . -ve m . \gamma$$

$$\& \text{ we know, } -ve m = [a] = [h], \quad \text{we get}$$

$$-ve. -ve T = h.h.\gamma$$

$$\text{then } -ve. -ve T/\gamma = h.h$$

$$= \{-ve. -ve T\} - \text{dot} = h^2$$

We now employ the -ve operator =  $1/\gamma$  again, which runs c.w. on the wheel.

So we state -ve T = momentum [p] & tandem -ve here, -ve [p] = system [ $\pi$ ]

$$\text{Then, } [\pi] - \text{dot} = h.h = \text{Omega } [\omega]$$

$$\text{Which is a model standard } \omega = h^2 = a^2$$

System omega can also be represented by  $\omega = p.E = \frac{mk}{mm} \sim \frac{k}{m}$

& further identities allow  $= m \cdot \frac{dS}{dt} = e.S$ , where  $[S]$  = entropy not Action here,

$$\& -ve[a] = -ve h = \frac{dS}{dt} = \left[ \frac{S}{\gamma} \right] = S - dot = k^{11} \text{ c.w. peg},$$

which means entropy  $[S] = \text{c.w. } [k^9]$

Also we 'see' on our wheel of 16 pegs,

The acw 'peg'  $T - dot = \lambda^{10}$  is coincident with cw 'peg'  $\omega = k^6$ .

**Our model allows for a view that gravity is an emergent property in our local scheme.**

From previous,

$$[h - dot]^2 = h.h - dd \quad \text{identical to} \quad [a - dot]^2 = a.a - dd$$

where,  $[a] = [h] = [k^3]$  & l.h.s of both identities  $= E = 1/mm = [k^{10}]$

$$\text{Also, } [h - dd] = [a - dd] = \text{Hooke } [K] = \frac{1}{m.\gamma} = [k^7]$$

$$\text{Thus, } [k^{10}] = [k^3].[k^7]$$

$$\text{Then, gravity } a = \frac{E}{K} = E.I$$

$$= \frac{1}{mm} . m.\gamma = \frac{m.\gamma}{mm}, \& [m/m] \text{ cancellation allows?}$$

$$a = \frac{\gamma}{m} = \frac{1}{e}$$

Or,  $a.e = \text{Unity}$  expresses our proposed Gravity wave eqn

This is a unity reciprocity relationship, where we can state some broad conclusions.

**Large lambda schemes have low gravity  $[k^3]$  & very low entropy  $[S] = k^9$ ,  
& small lambda systems have high gravity & very high entropy.**

**Thus, respectively, large systems (Cosmological scale) emulate in equilibrium a steady  
– state existence, & atomic scale schemes (quantum) exhibit Big bang properties.**

**The long sought link between quantum gravity & G.R. is evident as the  $[h]$  gravity pixel,  
within our Solar backyard, as**

$$\Gamma = [Mm].[-veMm] = Mm.h.$$

**This indicates the physical Lambda system is scale invariant and system numbers will result  
applicable to local conditions factored on  $\lambda^n$ , or in other words  
there are No Universal constants in Nature.**

The fact that gravity is *quantized* is inescapable, Bohr et al, yet *a continuum* is proved for Einstein, as the *Multi-verse paradigm* allows other 'contemporaneous' systems out there having differing values of local [h].

It might be possible in future exploration to gauge a local [h] on Mars, where at first approximation, it may well be  $[a] = 1/V = k^3$ , and as Sun-Mars lambda is >Sun Earth case we may expect a lower magnitude local [h] all other things being equal.

*Needless to say differing local numbers will give rise to differing chemistry & biology for separated schemes.*

#### Reflections on previous views of known constants & identities/ Laws of Nature.

It is possible that the Uncertainty Principle may have caused some confusion, whereby this model will see this U.P. as a corruption of the model identity

$$acw [\lambda^5] = mass [m] \text{ is found from the acw sense product } [p \cdot \lambda] = [\lambda^4 \cdot \lambda]$$

Also found from,  $[m] = [\gamma \cdot e] = [\lambda^2 \cdot \lambda^3]$ , again this is the Strong case for the  $[\lambda^n]$  integer exponent paradigm of the Physical model.

The de Broglie is the **-ve** case,

i.e model  $\lambda = m/p$  works well for +ve mass as shown above.

However,  $\lambda = h/p$  has to take account of the **-ve**  $m = a = h$  view.

Thus we need to supply a -ve somewhere to balance this out.

Say,  $h = [-ve \lambda \cdot P]$  will work &  $h = [\lambda \cdot -ve p]$  will likewise serve.

Thus, *-ve lambda = Hooke K =  $[k^7]$ , and -ve momentum = system pi =  $[k^4]$*

Respectively but not both inserted in the relevant place, and the U.P. *potentially might have been?*,

$$h = \{ (+ve/-ve) \lambda \cdot (-ve/+ve) p \}$$

*the +ve lambda in product with **-ve** p*

*&  
or **-ve** lambda in product with +ve p,*

*in fact a superposition of both possibilities, where  $\lambda^8$  or  $k^8$  differential may effectively allow for a range to be  $\nabla \lambda$  &  $\nabla \text{momentum}$  in a sense*

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The idea of a maximum velocity in Nature has no obvious support in the model, others systems will have differing k-numbers, c for photonic scale system, & G for our local binary, etc.

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Something else arises in this model which is not immediately obvious, the action of cancellations can be confusing &/or misleading perhaps. Say in the classical view of periods of pendulum scenarios will allow a view that mass is redundant for  $T = 2\pi \left[ \frac{l}{g} \right]^{\frac{1}{2}}$ , and simple cases like cancelling mass across K.E. = P.E. situations.

*This model says we must not negate mass, & put simply,*

$$\left[ \frac{m}{m} \right] = 1 \text{ can be shorthand for } -ve[m.e] = [a.e] = \gamma - dot$$

& albeit  $\gamma - dot = [\gamma/\gamma]$ , is always nominally [1] = unity, the point is that the masses do not actually disappear in real physical cases, or model applications. Conventional math allows cancellations for ease of calculation.

*The dynamic fluxions of acc & energy for instance, has been masked somewhat, but not totally discarded or lost!.*

*Thus we may retain & add value, readily derived from these erstwhile historically hidden parameters, or the hidden variables have always been there in plain sight.*

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Reference Galactic Rotation Curves conundrums & darkness paradigms currently in vogue, it is important in these cases to use local system numbers, for example Galactic scale [k] not Newtonian [G] which is a local system number. It is obvious that *Geometry* is writ large in Nature and this dynamic element can cause us to experience local time-force. We may think that model 'gamma' time is not necessarily a *fourth dimension*, rather a cosmic onion of centric & conservative acting laminae of Area at any particular & multiple lambda value, & this time = force plane is always orthogonal to all three familiar axes, evident as Surface Area in geometry sense.

The model offers entropy or specifically *rate of entropy*  $S - dot = dS/dt$  as a possibility,

Where **-ve** acceleration = **-ve.-ve** mass gives  $k^{11} = [10^{-11}]^{11} = 10^{-121}$  v close to modern accepted estimates of Einstein's cosmological constant  $\Lambda$ . Note: S-dot is **-ve** acc so would counter gravity, in a sense.

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If we say in a '*balanced closed*' system that there are no unbalanced forces. We can then allow from the model view, [**-ve** Gamma = Omega], which will allow for a new gamma-time paradigm, such that time is not only geometric & local, but also Gamma = time, *we have thro N.3.L. -ve t =  $\omega$*  to effectively cancel this +ve t, such that within equilibrated systems,... **net time-flow is zero.**

*Time in balanced systems may appear frozen, or null time through dynamic mutual opposition  
of system gamma & omega.*

What may classically persist as a *background clock 'reality'* may well be an illusion, caused by common place or common sense notions of ageing effects thro observing localised nested gamma systems interplay within our larger Macro scheme.

Each & every system '*out there*' will potentially have their own dynamic time scales through local numbers at large. V large Cosmological systems will have a vast array of nested  $\gamma$ -systems in largely isolated states of time awareness.

**If we travel there! we must accept their clocks & rods, & we will change that if only infinitesimally by our arrivals & departures. Presence &/or absence will amount to  $\pm \nabla m$  this will affect everything about the system whether the mass is sentient, a mouse or a rock. System omega =  $1/\{\text{mass} \times \text{lambda}\}$ . So much for Conscious observers.**

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**The 2<sup>nd</sup> Law of Thermodynamics & Eddington's maxim nuanced in the model.**

The law that entropy always increases holds, I think, the supreme position among the laws of Nature.

If someone points out to you that your pet theory of the universe is in disagreement with Maxwell's equations – then so much the worse for Maxwell's equations.

If it is found to be contradicted by observation – well, these experimentalists do bungle things sometimes.

But if your theory is found to be against the second law of thermodynamics I can give you no hope; there is nothing for it but to collapse in deepest humiliation.

— Sir Arthur Stanley Eddington, *The Nature of the Physical World* (1927)

In our model entropy  $[S] = [k^9]$  c..w. sense on the wheel. If a system grows or increases size  $\lambda s \uparrow$  therefore  $[k] - \text{number} \downarrow$ .

Increasing lambda is equivalent to increasing time, as  $\gamma - \text{time} = [\text{lambda}^2]$ , therefore as  $\gamma \uparrow$  or  $\lambda^2 \uparrow \dots k^9 \downarrow$  this seems counter or inviting Maxwell's demon into play.

However what seems important here is reciprocal entropy  $1/[S] = \lambda^9$  & that obviously increase with Area-time &/or system lambda. Likewise  $1/[S - \text{dot}]$  also increases and that is our recently proposed dark paradigm, for –ve gravity. It counters attractive or conservative +ve[a], lets call it dark matter, but conventionally it might be referred to as dark energy\*, this is labelling & not important here. It is –ve acc or –ve. –ve mass.

Now a process no matter how small in magnitude that opposes the attractive force, will allow for more expansion or less contraction than the conventionally accepted case. This allows cooling or temperature regulation.

We will now use a model chimaera, say the phenomenon [B]-field is small lambda system entropy, Or [B] is equivalent to notions of entropy like [S].

Then,  $B - \text{dot} = dB/dt = S - \text{dot} = dS/dt$

And we employ Faraday's Law expressed in Maxwell E-M....a la mode

$$-ve \frac{dS}{dt} = -vek.E$$

$$\text{Then } S - \text{dot} = k.E$$

$$= k.1/mm$$

$$= \lambda/mm.\gamma$$

$$\text{Or, } m.m.\gamma = \text{lambda}/S - \text{dot} = [\lambda.\gamma]/S = e/S = \text{lambda}^{12}$$

& as  $S = K - \text{dot}$ , and  $[mmy] = \text{lambda}^{12} = \text{Temperature } T$ , we get

$$T = \text{mass}/K \quad \&/\text{or} \quad T = m - \text{dot}/S$$

$$\text{Thus system energy } [m - \text{dot}] \text{ gives } e = S.T \quad \&/\text{or} \quad T = e/S,$$



As stated previously if energy remains relatively constant i.e. we cannot import any new energy or mass into our system yet increase its size, then T must reduce, thro molecular diaspora.

This of necessity allows cooling if entaxy or reciprocal entropy goes up with increasing size of our imaginary spherical 'box'. This is consistent with classical Gas Law lore, and is a model nuanced view on the Carnot cycle, Clausius & respectable Gas Laws etc, etc.

*The classic paradigm of gas molecules in a box, allows for a simple demonstration of a removable partition, withdrawn enlarging, Volume. Thus the molecules disperse into the larger space over exhaustive time, as accepted example of entropy in action.*

The model view of dynamic lambda systems would say that the system lambda, Gamma, & energy, represent Geometry as Length, Area & Volume, & these observables are measureable yardsticks of a system at rest in equilibrium. Thus an increase of lambda will accommodate greater energy for instance as  $m \cdot \dot{V}$ .

If in a closed system we cannot / do not increase the energy or mass present in a scheme, the newly increased  $\nabla V$  may indicate a **-ve energy vacuum** condition exists, i.e. we have more volume than we should expect given the available energy budget. Nature abhors a vacuum, what will happen?

We 'go to' our system wave equation  $-ve[m \cdot \dot{m}] = 1$  i.e. **-ve energy = reciprocal mass**,

*Therefore, if we want to backfill our newly acquired **-ve energy** state*

*we need to borrow something from the massy component of the system.*

*Then we see that,  $\frac{1}{m} = a - \dot{a} = \frac{da}{dt}$ , & this works out fine as  $[a] = \text{b-ve mass}$*

$$\text{then, } [a - \dot{a}] = \frac{da}{dt} = \text{b-ve} \frac{dm}{dt}$$

*i.e **-ve energy** flows from the 'rate of change' conduit of gravity induced by self regulatory system efforts to re-equilibriate the dynamic change of conditions presented by an increased spatial dimension.*

*This is push pull mechanics in Action, now we need a **+ve** feedback mechanism to regulate*

*this **-ve mass** 'run' on  $da/dt$ .*

*That is supplied by  $S - \dot{S} = -ve \frac{da}{dt} \ll \frac{da}{dt}$  & acts to oppose it.*

*As the system balances out in conventional time the relative magnitudes involved will decay exponentially and transient away, as we successfully backfill our **-ve energy** hole.*

*This is a putative mechanism for expansion as intermediate state in a popular paradigm that allows Big Bang to race to steady-state condition, and is supportive of the accepted mass energy equivalence view in relativity.*

*Our wave equation facilitates to & fro, **-ve**  $[m \cdot \dot{m}] = 1$ ,*

*further  $[\omega]_s = [h \cdot \dot{h}]$  allows us to step effortlessly to  $\omega - \dot{\omega}$ ,*

*or  $[h \cdot \dot{h}] = \text{b-ve} 1$*

*The system acts to perpetually self-regulate, **+ve 1** is balanced with **-ve 1**, similarly **+ve i** is balanced by **-ve i**, & so on Indicative of **+ve** & **-ve** integer exponents on system lambda in ceaseless taijitu rotation.*

*contraria sunt complementa*

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